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CORONADO NATIONAL FOREST



UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE

National forests pay no taxes but instead 25 percent of all receipts from the forest received from timber sales, grazing, land use, etc., are turned over to the counties in which the forest is located, to be used for schools and roads. Another 10 percent is used to improve forest roads and trails in those counties.

The return of 35 percent of the gross receipts to the counties, plus Federal appropriations for forest highways and roads, and the benefits of having vital watersheds protected and resources developed for a continuous supply of water, wood, forage, wildlife, and recreation, provide a greater economic return than these counties would receive if these properties paid them the usual real-estate tax from a private owner.

CORONADO

NATIONAL FOREST

ARIZONA

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE

SOUTHWESTERN REGION



ALBUQUERQUE, N. MEX.

On the Cover.—The explorer Coronado entered what is now the United States in the neighborhood of the Coronado National Forest over 400 years ago. The picture on the cover was taken during the pageant in the Southwest celebrating the entrada of this expedition. The costumes, flags, etc., are as nearly authentic as they could be made following careful research by historians

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UNITED STATES
GOVERNMENT PRINTING OFFICE
WASHINGTON : 1942



Top: A solid stand of pine timber in the Chiricahua Mountain Division, Coronado National Forest. Under proper management these mountainsides produce regular crops of timber, dependable yields of forage for livestock, and usable water. They also provide a home for wildlife, and recreation and employment for many people.

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Bottom: The yucca plants are valuable for forage in prolonged drought. Special chopping machines have been devised for converting the green leaves and stalks into emergency feed for livestock.

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Foreword . . .

THE CORONADO NATIONAL FOREST is a valuable public utility that contributes to the lives of many people.

The forest is managed by technically trained men of the Forest Service, U. S. Department of Agriculture. In a sense these men are farmers. The crops they produce are timber, forage, water, and wildlife. They encourage mining, and they develop the recreational values of the forest.

The harvesting of the forest resources stimulates employment in the woods, on farms, and in cities. The mountainsides through proper use thus furnish additional income for many people in logging and milling; fattening and processing livestock; irrigation farming; mining and smelting; dude ranching; and in operating hotels, tourist camps, gasoline stations, and other businesses serving tourists and recreational visitors.



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The giant cactus or saguaro, pronounced sa-war-o, grows as high as 50 feet and lives to be more than 100 years old. The Indians have used it extensively; the fruit for conserves and beverages; the ribs for shelter, corrals, and furniture.

Land of Coronado

THE CORONADO NATIONAL FOREST is located in southeastern Arizona. It was in this vicinity more than 400 years ago that Coronado entered what is now the United States.

The forest contains 1,317,659 acres, and most of this land is on the mountain ranges. It was created from the Chiricahua and Santa Catalina Forest Reserves established in 1902. Later additions consisted of lands located in the Huachuca, Tumacacori, Santa Rita, Dragoon, Whetstone, Peloncillo, and Animas Mountains.

The purpose in the management of the Coronado, as with other national forests, is to protect the natural resources and to provide for the perpetual production of forest crops. Long-term management plans providing for the use and development of all the forest values have been adopted.

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Scene of the final surrender of Geronimo, the famous Apache chief. Circular rock pile in the foreground marks actual point of surrender. It is located at mouth of Skeleton Canyon, 10 miles southwest from Apache, Ariz.





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Trail riders in Long Park enjoy the bracing air of the Chiricahuas, scented with the fragrance of pine needles. In these high altitudes the sun too is particularly invigorating.



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Students from adjoining schools use the forest regularly as a laboratory to study plants, animals, and geology, as well as for camping, hiking, and horseback riding.

Watershed Management

THE MAIN WATER-PRODUCING AREAS of southeastern Arizona are the high mountainous regions, most of which are included in the Coronado National Forest. Most of these areas receive from 25 to 30 inches of precipitation annually.

When the mountainsides are skillfully "farmed" so that they are producing trees, brush, and forage perpetually, the slow surface run-off of rain and melting snows contributes to the steady flow of springs and streams. The forest cover also acts much like a blotter or a sponge. The water percolates deeply into the ground through subterranean channels and

Ranchers and stockmen also benefit from watershed management on the Coronado National Forest. Many miles from the forest are scores of artesian wells and storage reservoirs which provide many farmers with domestic and stock water and limited irrigation. There are also hundreds of windmills in the more or less arid valleys of the Santa Cruz, San Pedro, the Sulphur Spring, and San Simon. The stockmen in these valleys largely depend upon water from these wells. Underground water is also pumped for irrigation in some of the valleys, such as the Tumacacori, Amado, and Continental.





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Much of the water in southeastern Arizona comes from the mountain ranges of the Coronado National Forest.

feeds the underground basins which supply the artesian wells, windmills, the mines, and the city water systems.

If the mountainsides of the Coronado were bare and denuded by fires, overgrazing, or destructive logging, the surface waters would rush down as if from a tin roof. Great losses of water in the channel sands, destructive erosion, disastrous floods, and silt-laden water of inferior quality for domestic use would result. Percolation into subterranean reservoirs would also be greatly reduced because mud and silt would soon choke up the ground water channels.

Many communities in southeastern Arizona, such as Tucson, Nogales, and Tombstone, depend for their water on underground water reservoirs. In order to further protect the watersheds vital to these communities, the Forest Service has withdrawn from grazing 26,000 acres in the Catalina Mountains and 14,000 acres in the Santa Rita Mountains.

From Seed to Sawlog

UNDER PROPER CONDITIONS, a forest, ever changing, will consist of seedlings from a few inches high to the height of a man; saplings competing with the tall, full-grown trees for light and space; and the matured trees, which if not harvested would eventually decay and finally crash to the forest floor, their economic value almost entirely lost to mankind.

Few tourists passing through national forest land in southern Arizona realize that the mountain country which flanks the highways is being managed for production of successive crops of pine trees. Away from the roadsides and recreational and wilderness areas, however, mature timber can often best serve mankind when harvested.

Forest ranger marking a ripe tree for harvesting. Those trees having a higher value for scenery, recreation, or watershed protection are preserved. Selective cutting leaves a reserve stand of thrifty, fast growing trees, which also reseed the ground.





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Harvesting the forest crop on a steady basis gives steady work.

The harvesting of the timber crop in the Coronado is a continuous process giving steady employment. Ripe trees are cut each year to supply the local demand for fuel, fence posts, buildings, mines, and other purposes.

The cutting of timber is done according to a detailed management plan which provides for perpetual production. Young, fast-growing trees are left to form the basis of a new crop, to maintain the watershed cover, and to protect the land from erosion. The growing timber crop is protected from fire, insects, and disease.

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Consumers of wood products are assured of a dependable and low priced supply through the timber-management plan for sustained yield. There is a strong local demand for fence posts and firewood.

Growing Forage for Livestock

FORAGE is grown as an annual crop on the Coronado Forest. Its utilization gives employment to local people and to others in the Middle West and on the West Coast.

The cattle business is one of the leading industries in the surrounding country. Over 200 stockmen living in Cochise, Santa Cruz, and Pima Counties graze over 37,000 head of cattle on the national forest-range, which for the most part provides year-long grazing. This is about one-third of all the cattle owned in these counties. The majority are breeding cows.

Enough range is held in reserve for livestock needed by the miners and their families. The mining town of Harshaw, for example, is located right in the forest. Between 15 and 20 families live there, almost all of whom have a milk cow, a

Forest Service stock water developments help to open up otherwise inaccessible range. About 25,000 head of cattle raised on the ranges of the Coronado are shipped each year to pasture and feed lots in Illinois, Kansas, Missouri, Iowa, California, and Arizona. There they are fattened and sold to packing plants.



saddle horse, or a pack burro. These families need forage and water for their livestock and are allowed to graze up to 10 head of domestic livestock on the national forest without charge. Nogales alone reports over 300 mines.

The necessary forage for the livestock must be provided each year without damaging the cover of vegetation on the vital watersheds. The problem is one of the most difficult to solve of all those which confront the Forest Service. Such range-management practices as the permit system, allotment of ranges on the basis of permits, fencing each allotment to hold cattle on their range, using the allotment on the basis of its grazing capacity, and development of water supplies to make available inaccessible range have been adopted. Meetings and other educational methods are used to keep stockmen informed on proper salting, deferred grazing, better winter care, and value of superior breeding stock.

In mountainous country cattle seldom go over 2 miles for water; as a consequence on unregulated ranges the soil cover may be severely damaged by overgrazing. Destructive erosion, followed by floods may result, especially around overused watering places. Over 500 stock water developments have been constructed in the Coronado Forest, however, in order to insure better forage and more water. These water developments have also opened up to grazing thousands of acres of new range, which was formerly too far from water.



About 1,400 men are employed by private industry each year in processing the cattle produced annually on the Coronado. This work includes the buying, pen labor, feeding, packing, and delivery of the meat.

The Santa Rita Experimental Range

THE SANTA RITA EXPERIMENTAL RANGE established in 1903 lies adjacent to the Santa Rita Division of the Coronado National Forest along the western slopes of the Santa Rita Mountains about 35 miles south of Tucson. Since 1915 the area has been under continuous grazing management by the Forest Service with the two major objectives of improved management of range lands and more profitable handling of range livestock.

Many phases of the range problems are being carefully studied, such as the growth habits and requirements of the common native forage plants, the amount of grazing they will withstand, and the part that each plays in furnishing feed for range cattle. Range-water development and distribution is another phase of the work. Persistent observation of these and many other factors is leading to a more systematic management of forest range areas in general.

Various phases of handling stock on the ranges of the Southwest are being studied, with the result that larger cows are being grown, more and better calves produced, fewer losses sustained, and more satisfactory returns are being realized by the operators.

Better range management means greater continued profits to the operator, which in turn affect the wealth of the community; and these benefits together with the resulting conservation of natural resources react to the general advantage of the Southwestern range country.

No small part of the value of the station lies in the educational advantage it offers the students of range management and the demonstrated advantages it provides for the range administrators and operators. Students, as well as men charged with the solution of range problems, come from all parts of the world to observe the work and obtain first-hand knowledge of the results being secured.



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Wild turkey restocked in the Chiricahua Wild Area, Coronado National Forest. This game bird was entirely exterminated on the forest. It has been restocked in three separate areas and is being protected until sufficiently numerous for hunting.

Wildlife on the Coronado

THE PROPER MANAGEMENT of wildlife by the Forest Service has increased the population of deer, turkeys, trout, and fur-bearing animals on the forest.

State game refuges have been established to give all species a chance to multiply, to reduce overshooting, and to stock surrounding country with game for hunters. In cooperation with the State game department the hunting season has been limited and wildlife has been protected from its enemies. Game habitat has been improved through the protection of the vegetative cover.

Although over 5,000 sportsmen come to the forest each year for fishing and hunting, fish and game species are coming back to their native habitats in many places. Trout are still scarce, but occasionally can be caught in places where there were none before and in the game refuge areas deer can be seen from automobiles almost any morning or evening.

The methods used to bring back and protect the wildlife, in cooperation with the State game department, may be summarized as follows: (1) Restoration of habitat. (2) Protection from enemies. (3) Control of hunting season. (4) Game refuges. (5) Control of wildlife. (6) Protection of soil cover.

Yours to Use and Enjoy

MAN NEEDS BEAUTY as well as bread. The high mountains, shaded with trees, watered by streams, and populated with wildlife appeal to the thousands of people, local residents and tourists alike, who use the Coronado National Forest for recreation.

The forest is managed not only for the production of annual crops of grass, timber, and wildlife, but its outdoor playgrounds are also being developed in accordance with a definite program to provide camping, picnicking, riding, hiking, swimming, and winter sports for the public.

The development of recreational areas and the construction of roads and trails invite both young and old to enjoy the

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Tourists from New York State camping in a Coronado recreational area in March. The baby on mother's lap was born en route. Trailer travelers from almost every State in the Union camp on the forest.

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An area for tobogganing and skiing has been built in Rustler Park, formerly a hangout for outlaws. About 400 winter sports fans enjoy themselves here every winter. One of the farthest south ski areas in the United States, it is only 40 miles, airline, north of the Mexican border.

forest. Over 300 miles of roads and more than 900 miles of trails have been built on the Coronado. Although their primary purpose is for fire protection and the transportation of the forest crop, they are open to the public.

Automobile trips may be made to forest attractions and recreation spots. The supervisor of the Coronado has an office in the Federal Building, Tucson, Ariz., and he will be glad to furnish detailed information with regard to these trips.

Four areas have been established for the preservation and study of plant life:

THE SANTA CATALINA NATURAL AREA consists of 4,464 acres. It was established in 1927 through the cooperation of the Tucson Natural History Society for the purpose of maintaining the original conditions of the area as far as possible undisturbed for any reason whatsoever for all time. It is designed for study by foresters, livestock men, naturalists, scientists, and the general public, and may be reached by a 2-mile trail from Marshall Gulch on top of the Catalinas.

BUTTERFLY PEAK NATURAL AREA was established in order to preserve permanently in a natural state an area containing one of the largest varieties of trees and shrubs to be found in any one place in the Southwest. The area, containing about 1,000 acres, is situated at the head of Alder Canyon on the eastern slope of the Santa Catalina Mountains and may be reached by a 3-mile walk over Forest Service trail from Soldier Camp on top of the Catalinas.

POLE BRIDGE CANYON NATURAL AREA. In this area the dominant tree type consists of a rare species of Southern Arizona pines. It contains 320 acres, is located on the west slopes of the Chiricahuas, and can be reached by road from the Sulphur Spring Valley and by a 2-mile trail from Morse Canyon.

CHIRICAHUA WILD AREA includes 18,000 acres on the summit of the Chiricahua Mountains. It is one of our last frontiers, with a fair stand of timber. It has no roads or trails excepting those necessary for fire protection. Do not go there unless you have had experience in the woods, and it is not advisable to go alone. The elevation ranges from 7,200 to 9,795 feet. The principal wildlife consists of whitetail deer, peccary, black bear, mountain lion, wildcat, fox, coyotes, Arizona gray squirrel, and Chiricahua squirrel, the latter species being very rare. Wild turkeys have been successfully reintroduced in recent years and about 5,000 acres are included in a game refuge.

Fishing is not considered good, although black, speckled, and rainbow trout have been caught in some of the deeper pools.

Two national monuments are also within the national-forest boundaries, Wonderland of Rocks, in the Chiricahuas, and the Saguaro National Monument in the Rincon Mountains Division. They are administered by the National Park Service of the Department of the Interior, whereas the national forests are administered by the Forest Service of the Department of Agriculture.

Points of Interest

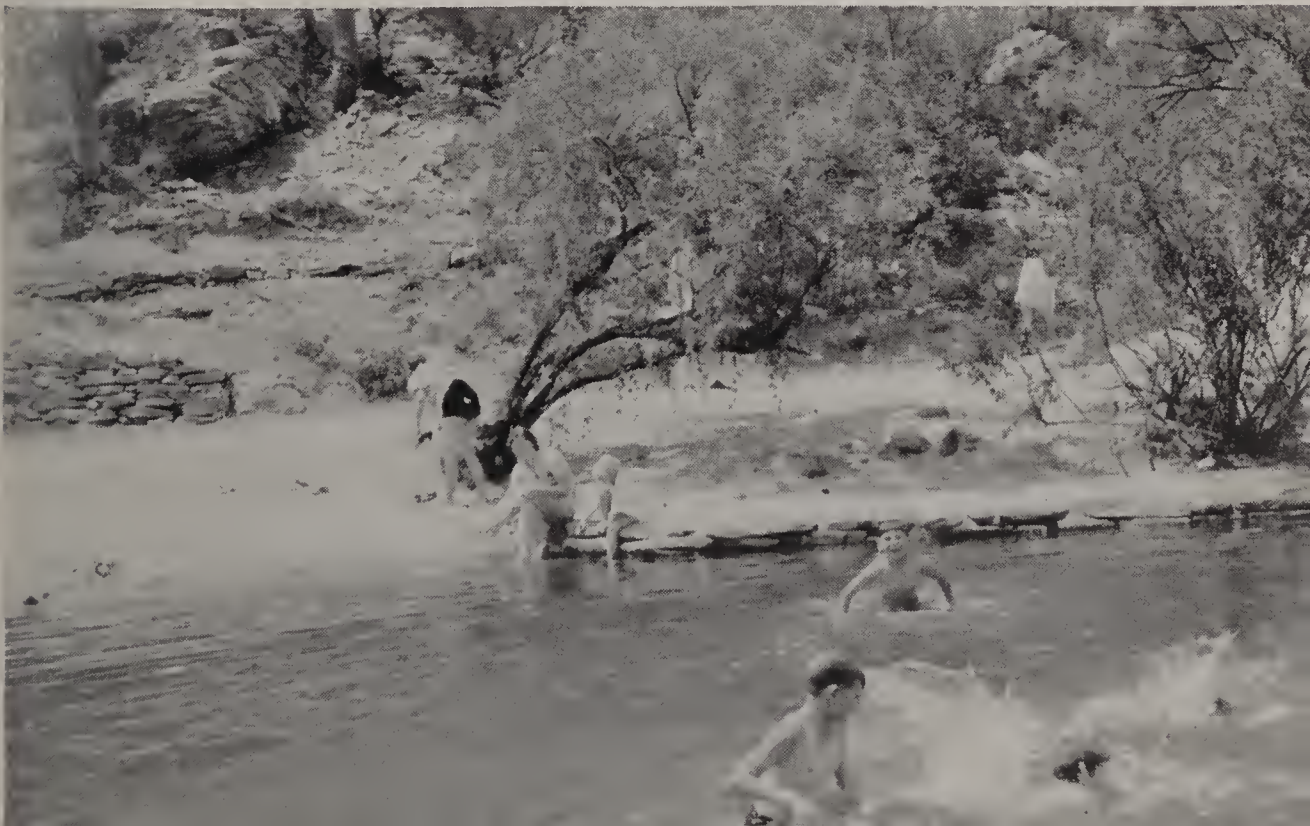
IN AND CLOSE to the forest are ruins of ancient Indian settlements; famous army posts of the frontier days, like Fort Bowie; Apache Pass, the scene of many ambushes and massacres; the old Butterfield Stage Route; historic missions; and the San Pedro Valley, through which Coronado entered the United States over 400 years ago.

The forest is also the final resting place of some of its inhabitants. Among them were victims of the Apache wars, who are buried where they fell, like Frenor and Lobley in Pinery Canyon; Apache Chieftain Cochise, buried somewhere in the Dragoon Division; Capt. Ives Parks, first homesteader of Turkey Creek who lies buried in the Huachuca Division. Three unknown Arizona pioneers are buried in Rucker Canyon.

Twenty recreational areas have been developed with tables, benches, fireplaces, drinking water, and sanitary facilities. Over 120,000 men, women, and children swim, play, hike, ride, picnic, or "sun" themselves here each year.

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Mining in the Forest

MINING AND PROSPECTING are permitted on the national forests. The only restrictions are that mining laws and regulations shall be complied with and that mining claims must be held in good faith as legitimate mineral developments. Mining in the forest gives work to local people.

Mining is a leading activity in Arizona and has been since the date of the Gadsden Purchase. Innumerable mining claims have been filed in the Coronado National Forest, and much wealth has been produced by the mines.

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F-412392

It is estimated that about 6 board feet of wood are used for every ton of minerals mined in the Coronado National Forest. Two trucks are kept busy hauling smelter poles from the Coronado National Forest to the smelter at Douglas. A year's growth of timber on 1 acre of Coronado National Forest land is used for every 7 tons of copper. A smelter pole, inserted in a vat of boiling copper is slowly burned up, to assimilate the excess oxygen in the copper. Sixty pounds of wood are used for smelting every ton of copper.

W. F. Cody, better known as Buffalo Bill, owned the Hi-Jinks gold mine and the Camp Benito Scheelite Mine, both of them located in the Coronado Forest. The Phelps Dodge Corporation, the American Mining and Smelting Co., and the Eagle Pilcher Co. are among the larger producers having holdings within the forest.

The forest furnishes about one-fifth of all the metals processed by a customs smelter in El Paso, Tex. It uses copper, lead, silver, and gold. The zinc is reshipped to the smelter at Amarillo, Tex.

The lead is shipped to Omaha, Nebr., where it is processed into storage batteries, alloys, pipes, and a base for paints. The copper from the El Paso smelter is shipped to Baltimore, Md., and Perth Amboy, N. J., where it is refined into cathode sheets. These are shipped to manufacturers all through the East, where they are made into copper pots, pans, wire, electrical equipment, and hundreds of other things. Thus, the products of the Coronado National Forest stimulate industry over a far-flung area.

Fire is the forest's greatest enemy. An average of 60 fires occur on the Coronado National Forest each year, and many of them are man-caused. An innocent looking ground fire destroys forage, seedlings, wildlife, and the important vegetative cover on a vital watershed and can be just as destructive as a raging timber fire.





F-400569

Fly Peak lookout tower. Eleven of these towers have been built in strategic places. Telephones connect them with ranger stations, and a well trained voluntary organization of 107 local guards is always ready to go out and fight fire at a minute's notice.

Duties of a Forest Ranger

THE AVERAGE RANGER DISTRICT contains over 200,000 acres, and its proper management and protection is a technical job. The forest officers on the Coronado have spent an average of 16 years each in the Forest Service.

The ranger is the business manager of his district. He looks after the growing and harvesting of the forest crops. He supervises timber sales, livestock grazing, water management, wildlife, and recreation. He looks after the building and maintenance of roads, trails, fences, and telephone lines, and he is in charge of his local fire-fighting organization and trains it.

Location of the six ranger districts:

Catalina District, Federal Building, Tucson, Ariz.

Douglas District, Federal Building, Douglas, Ariz.

Huachuca District, Canelo Ranger Station, Elgin, Ariz.

Paradise District, Portal Ranger Station, Portal, Ariz.

Santa Rita District, Patagonia Ranger Station, Patagonia, Ariz.

Tumacacori District, Nogales Ranger Station, Nogales, Ariz.

The forest supervisor's office is in the Federal Building, Tucson, Ariz.

FOREST FIRES destroy grass, timber, watersheds; also fish, bird nests, young birds, deer, and other wildlife. They destroy the beauty of the forest. They cause erosion and floods, and they lead to idle acres and idle men.

Yours to Help Protect!

THE CORONADO NATIONAL FOREST is a most valuable property and very necessary to lives of many people. You can help us to protect it from fire, by observing the following simple rules:

1. MATCHES.—Be sure your match is out. Break it in two before you throw it away.

2. SMOKING.—Smoke only while stopping in a safe place clear of all inflammable material.

3. TOBACCO.—Be sure that pipe ashes and cigar or cigarette butts are dead before throwing them away. Never throw them into brush, leaves, or needles.

4. MAKING CAMP.—Before building a fire scrape away all inflammable material from a spot 5 feet in diameter. Dig a hole in the center and in it build your campfire. Keep your fire small. Never build it against trees or logs or near brush.

5. BREAKING CAMP.—Never break camp until your fire is out, dead out. Always leave a clean camp.

6. HOW TO PUT OUT A CAMPFIRE.—Stir the coals while soaking them with water. Turn small sticks and drench both sides. Wet the ground around the fire. If you can't get water, stir in earth and tread it down until packed tight over and around the fire. Be sure the last spark is dead.

7. BRUSH BURNING.—Never burn slash or brush in windy weather or while there is the slightest danger that the fire will get away.

8. PUT OUT any small fires you can, report others to the nearest ranger or fire warden.

U.S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE-REGION 3
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CORONADO NATIONAL FOREST
ARIZONA AND NEW MEXICO
1942

SCALE
2 0 2 4 6 8 MILES

- LEGEND
- NATIONAL FOREST BOUNDARY
 - ROAD
 - TRAIL
 - RAILROAD
 - FOREST SUPERVISOR'S HEADQUARTERS
 - DISTRICT RANGER STATION
 - PERMANENT LOOKOUT STATION
 - IMPROVED FOREST CAMP GROUND-FREE
W.S. = WINTER SPORTS AREA
 - U.S. HIGHWAY NUMBER
 - STATE HIGHWAY NUMBER

